



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/591,499

07/10/2007

Kazuo Tagawa

07481.0052

2524

22852

7590

12/24/2008

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP

901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

VASISTH, VISHAL V

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

12/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,499	Applicant(s) TAGAWA ET AL.	
	Examiner VISHAL VASISTH	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/1/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities: the claim reads, "a tetraester of pentaeryfritol" and it should read, "a tetraester of pentaerythritol."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimomura et al, US Patent No. 6,231,782 (hereinafter referred to as Shimomura) in view of Kawahara et al., US Patent No. 6,667,285 (hereinafter referred to as Kawahara).

Shimomura discloses a refrigerator oil composition comprising, a hydrocarbon oil, an alicyclic polycarboxylic acid ester compound as a base oil component, a sulfur

Art Unit: 1797

compound such as a phosphorothionate (as recited in claim 1) (Col. 12/L. 7-20), a phosphorus (as recited in claim 1) (Col. 2/L. 32-34) and an epoxy compound such as a alkylglycidyl ester epoxy compound (as recited in claim 1) (see Abstract and Col. 10/L. 28). As discussed above Shimomura discloses an ester base oil component (Col. 2/L. 14-24 and Col. 5/L. 36) but does not explicitly disclose a polyol ester as a base oil.

Kawahara discloses a lubricating oil composition for refrigerators comprising a mixture of at least one aliphatic saturated branched-chain carboxylic monoalkyl ester and fatty acid polyol esters (polyol ester as a base oil as recited in claim 1) (Col. 3/L. 30-35). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the refrigerant composition of Shimomura with the base oil mixture of Kawahara in order to enhance the hydrolytic stability and decrease the viscosity of the composition (Col. 3/L. 23-25 of Kawahara).

Claim Rejections - 35 USC § 103

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osumi et al., US Patent No. 2002/0123436 (hereinafter referred to as Osumi) in view of Shnur et al., US Patent No. 5,820,777 (hereinafter referred to as Shnur).

Osumi discloses a refrigerating machine oil which can be used for refrigerating machines such as packaged air conditioning systems (as recited in claim 2) (Para. [0084]) comprising, a polyol ester as a base oil (as recited in claim 1) (Para. [0010]), a phosphorus additive (as recited in claims 1-2) (Para. [0052]-[0053]) and an epoxy compound (as recited in claim 1-2) (Para. [0059]-[0060]).

Osumi further discloses that the base oil for the refrigerant machine composition can be a mixture of esters made from at least two kinds of esters having different structures. Amongst the structures preferred are diesters of neopentyl glycol and a fatty acid and tetraesters of pentaerythritol and a fatty acid (as recited in claim 2) (Para. [0024] and [0027]).

Osumi discloses sulfur-containing antiwear agents but does not explicitly disclose the use of phosphorothionates.

Schnur discloses blended polyol ester lubricants for refrigerants comprising polyol ester basestock and effective amounts of additives which include phosphorothionates. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Osumi with the additive of Schnur in order to enhance the antiwear and extreme pressure properties of the composition.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Tazaki et al., US Patent Application Publication No. 2004/0157753 (hereinafter referred to as Tazaki).

Tazaki discloses a lubricant oil for refrigerators comprising polyol ester base oils such as diesters of neopentyl glycol with one or more fatty acids and tetraesters of pentaerythritol with one or more fatty acids and additives to formulate a finished composition.

Art Unit: 1797

7. There were X and Y references disclosed in the PCT search report that was part of the file wrapper to this application that were unused. This is because the references used were sufficient to reject the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/
Primary Examiner, Art Unit 1797

VVV

Application/Control Number: 10/591,499
Art Unit: 1797

Page 6